

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of the claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method of routing a data flow traversing one or more routers in an internetwork, wherein the one or more routers are coupled to a plurality of service provider access links, the method comprising:

determining a prefix for the data flow, wherein the prefix corresponds to an application selectable from a plurality of applications;

calculating a plurality of application-specific performance scores for the plurality of service provider access links, each of the plurality of application-specific performance scores indicating performance for an application of a route from a router of the one or more routers to the prefix via a distinct service provider access link from the plurality of service provider access links;

detecting a current service provider access link for the prefix, the current service provider access link corresponding to a current route to the prefix specified by a routing protocol, the current service provider access link having [[a]] an application-specific performance score from the plurality of service provider access links; [[and]]

selecting a new service provider access link from the plurality of service provider access links for routing the data flow to the prefix, wherein the new server provider access link has a superior performance score from the plurality of application-specific performance scores superior to the performance score for the current service provider access link; and

implementing a route update request according to a priority queue, wherein the route update request corresponds to the superior performance score.

Claim 2 (currently amended): The method of claim 1, wherein the plurality of application-specific performance scores [[is]] are at least partially dependent upon delay measurements across the plurality of service provider access links.

Claim 3 (currently amended): The method of claim 1, wherein the plurality of application-specific performance scores [[is]] are at least partially dependent upon jitter measurements across the plurality of service provider access links.

Claim 4 (currently amended): The method of claim 1, wherein the plurality of application-specific performance scores [[is]] are at least partially dependent upon loss measurements across the plurality of service provider access links.

Claim 5 (currently amended): The method of claim 1, wherein each of the plurality of application-specific performance scores comprises a scalar value.

Claim 6 (currently amended): The method of claim 5, wherein the plurality of application-specific performance scores [[is]] are customized for HTTP traffic.

Claim 7 (currently amended): The method of claim 5, wherein the plurality of application-specific performance scores [[is]] are customized for video traffic.

Claim 8 (currently amended): The method of claim 5, wherein the plurality of application-specific performance scores [[is]] are customized for VoIP traffic.

Claim 9 (currently amended): The method of claim 1, wherein the plurality of application-specific performance scores [[is]] are at least partially dependent upon interface load measurements.

Claim 10 (currently amended): The method of claim 1, wherein the plurality of application-specific performance scores [[is]] are at least partially dependent upon user configurable weights.

Claim 11 (withdrawn): A networking device for improving performance of one or more edge routers in communication with the networking device, the networking device comprising:

a prefix database including a plurality of network prefixes;

a priority queue, the priority queue including a plurality of entries for a subset of the plurality of network prefixes, such that the subset of the plurality of network prefixes is arranged in the priority queue in order of relative improvement in routing performance;

an asynchronous thread executing on the networking device, wherein the asynchronous thread retrieves the subset of the plurality of network prefixes from the prefix database and inserts the subset of the plurality of network prefixes in the priority queue in the order of relative improvement in routing performance; and

a synchronous thread executing on the networking device concurrently with the asynchronous thread, wherein the synchronous thread retrieves the subset of the plurality of network prefixes from the priority queue in the order of relative improvement in routing performance.

Claim 12 (withdrawn): The networking device of claim 11, wherein the subset of the plurality of network prefixes is retrieved by the synchronous thread from the priority queue at a fixed rate.

Claim 13 (withdrawn): The networking device of claim 12, wherein the fixed rate is user specified.

Claim 14 (withdrawn): A routing intelligence device for controlling a plurality of routers, wherein each of the plurality of routers is coupled to a plurality of service provider access links (SPALs), such that each of the plurality of routers is coupled to a distinct subset of the plurality of service provider access links, the routing intelligence device comprising:

an internal database, the internal database including a plurality of records including:

a key field storing one or more network prefixes;

a service provider access link field storing one or more identifiers for one or more current service provider access links from the plurality of service provider access links for linking the plurality of routers to the one or more network prefixes;

an update flag indicating whether the service provider access link field was recently updated; and

one or more performance scores for the one or more current service provider access links.

Claim 15 (withdrawn): The routing intelligence device of claim 14, further comprising:

a plurality of blades, such that each of the plurality of service provider access links associates with one or more blades of the plurality of blades for measuring a performance of the service provider access link.

Claim 16 (withdrawn): The routing intelligence device of claim 15, further comprising:

one or more processes for selecting a preferred service provider access link from the plurality of service provider access links, the one or more processes executed on a decision blade from the plurality of blades.

Claim 17 (withdrawn): The routing intelligence device of claim 15, further comprising:

a communication backplane, the communication backplane coupling the plurality of blades.

Claim 18 (withdrawn): The routing intelligence device of claim 14, further comprising:

a control protocol for communication between the routing intelligence device and the plurality of routers.

Claim 19 (withdrawn): The routing intelligence device of claim 18, wherein the control protocol is iBGP.

Claim 20 (withdrawn): A routing intelligence device comprising:

an internal database, the internal database including a plurality of records including:

a key field storing one or more network prefixes;

a service provider access link field storing one or more identifiers for one or more current service provider access links from a plurality of service provider access links for communicating with the one or more network prefixes;

an update flag indicating whether the service provider access link field was recently updated; and

one or more performance scores for the one or more current service provider access links.

Claim 21 (withdrawn): The routing intelligence device of claim 20, wherein the routing intelligence device is in communication with the one or more service provider access links via one or more routers.

Claim 22 (withdrawn): The routing intelligence device of claim 20, wherein the routing intelligence device is a router coupled to the one or more service provider access links.

Claim 23 (previously presented): The method of claim 1, further comprising transmitting the selected new service provider access link to the one or more routers.

Claim 24 (previously presented): The method of claim 23, wherein the selected new service provider access link is transmitted using a Border Gateway Protocol update message.

Claim 25 (previously presented): The method of claim 1, wherein selecting a new service provider access link comprises comparing a best route to a default BGP route.

Claim 26 (previously presented): The method of claim 5, wherein each performance score from the plurality of performance scores is customized for any one of a plurality of customer-selectable applications selected from the group consisting of a Web-based application, a voice application, and a video application.

Claim 27 (currently amended): A method of routing from a source node to a group of destination nodes having a common prefix comprising:

- a. generating a plurality of performance scores for a plurality of routes from the source node to the group of destination nodes, each performance score corresponding to an access link from one or more access links;
- b. determining a superior performance score from the plurality of performance scores;
- c. implementing a route update request according to a priority queue, wherein the route update request corresponds to the superior performance score, the priority queue prioritizes received route update requests according to urgency, and a rank of the update request for a prefix in the priority queue is dependent on a ~~potential~~ percent improvement of a performance score resulting from moving the prefix from its current route to a pending winner route; and
- d. configuring a router to select an access link corresponding to the route update request.

Claim 28 (previously presented): The method of claim 27, further comprising transmitting data related to a route containing the selected access link to the one or more access links.

Claim 29 (previously presented): The method of claim 28, wherein the data comprises network layer reachability information.

Claim 30 (previously presented): The method of claim 1, wherein selecting a new service provider access link depends on a difference between a performance score of the new service provider access link and a performance score of the current service provider access link.

Claim 31 (previously presented): The method of claim 1, further comprising assessing a penalty to a performance score for at least one of the current service provider access link and the new service provider access link.

Claim 32 (previously presented): A method of routing from a source node to a group of destination nodes having a common prefix comprising:

- a. generating a plurality of performance scores for a plurality of routes from the source node to the group of destination nodes, each performance score corresponding to an access link from one or more access links, wherein a performance score from the plurality of performance scores is determined by unpacking the group into component prefixes in the event a change in a performance score for the group above a threshold level is determined and generating performance scores for each of the component prefixes;
- b. determining a superior performance score from the plurality of performance scores;
- c. implementing a route update request according to a priority queue, wherein the route update request corresponds to the superior performance score; and
- d. transmitting a routing change corresponding to the route update request to one or more routers along the routes to route data along an access link.